

REMARKS

The Examiner rejected claims 1-14 under 35 U.S.C. § 102(e) as being anticipated by Evans. The claims recite a semiconductor laser with a mixer that mixes first and second light beams that each have a different optical frequency. The mixing of beams generates a polarization wave at a third optical frequency. The laser further has a phase grating that phase modulates the polarization wave to an electromagnetic wave that propagates at the third frequency. Evans does not disclose an optical mixer which mixes first and second light beams to create a polarization wave having a third optical frequency. These beams are then emitted from the laser diode, Evans merely discloses multiple lasers that generate light at two different frequencies. Evan does not provide any disclosure that these light waves are mixed to create a polarization wave at a third optical frequency. The undersigned requests that the Examiner cite by column and line numbers the locations in Evans which discloses mixing two beams having different frequencies to generate a polarization beam at a third frequency.

Additionally, Evans does not disclose a phase grating that phase modulates the polarization wave to couple power from the polarization wave to an electromagnetic wave. The phase grating in Evans merely redirects light out of the laser diode. Evan contains no disclosure, either expressly or inherently, that the phase grating phase modulates a polarization wave to couple power from the polarization wave to an electromagnetic wave. Consequently, Evans does not disclose or suggest this limitation of the claims.

Evans does not disclose either an optical frequency mixer or a phase grating with the functions recited in the claims. For this reason, the Applicant submits that Evans does not anticipate the pending claims of the above entitled application.

The Examiner rejected claims 1, 3, 6, 8, 11 and 13 under 35 U.S. C. § 102(b) as being anticipated by Uchida. The claims of the above entitled application recite a mixer that mixes first and second light beams. To mix two light beams, the beams must be simultaneously generated. Uchida does not disclose the simultaneous generation of light beams having different optical frequencies. Uchida discloses a device that switches between operations in a transverse electric mode (TE) and a transverse magnetic mode (TM). Again, the undersigned requests that the Examiner cite specific column and line numbers in Uchida

which discloses a mixer that mixes first and second light beams having different optical frequencies to generate a polarization wave at a third optical frequency.

Although Uchida discloses a phase control region, this region is used to change the phase of a light beam in a tunable laser. The phase control region is not matched to phase modulate a polarization wave to couple power from the polarization wave to an electromagnetic wave at the third optical frequency as recited in the claims of the above entitled application.

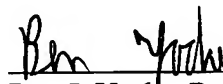
Uchida does not disclose the mixing of first and second beams having different optical frequencies or a phase grating that phase modulates the polarization wave to couple the power from the polarization wave to an electromagnetic wave. For these reasons, Uchida does not anticipate the pending claims of the above entitled application.

In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration of the rejections is requested. Allowance of claims 1-14 at an early date is solicited.

Respectfully submitted,

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Date